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EXAMINER

LAM, ANN Y

ART UNIT PAPER NUMBER

1641

DATE MAILED: 08/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/936,005

Applicant(s)

GE, HUI

Examiner

Ann Y. Lam

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 45 is/are pending in the application.
- 4a) Of the above claim(s) 14-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/01, 1/03, 6/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1641

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of group I (claims 1-13 and 45) with traverse in the reply filed on June 30, 2005 is acknowledged. The traversal is on the ground(s) that the claims are so closely related that minimal additional searching would be required to identify any art relevant to all the groups as compared to any one of the groups. Applicant argues that because all of the claims are united by a universal protein array, any search that detects art relevant to the universal protein array will detect all of the art relevant to any of the claims. This is not found persuasive because a search of one of the groups will not detect all art relevant to all the other groups, and the additional search and consideration is substantial and thus would be a serious burden on Examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claims 14-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

### ***Claim Rejections - 35 USC § 112***

Claims 4 and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1641

Claim 4 recites the limitation "each address". It is unclear what constitutes an address (e.g. each spot in the addressable pattern of claim 1)? The Office requests clarification.

Claims 7-9 each recite "comprising". It is unclear if Applicant intends to mean – the universal protein array comprises...." The Office requests clarification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-11 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Kauvar, 5,541,070.

Kauvar discloses a universal protein array, comprising a plurality of substantially pure target polypeptide samples (i.e., antibodies, col. 28, line 41) provided on a solid support (col. 27, lines 64-65), wherein the samples are immobilized on the solid support in an addressable pattern (i.e., array comprising rows and columns of antibody dots, col. 28, lines 39-40).

As to claim 2, the target polypeptide samples maintain a substantially native protein configuration (col. 8, lines 64-66, and col. 10, lines 7-8, and col. 28, lines 6-9.)

As to claim 3, the target polypeptide samples comprise substantially full-length native proteins (col. 8, lines 64-66, and col. 10, lines 7-8, and col. 28, lines 6-9.)

As to claim 4, each address contains only one substantially pure target polypeptide (see col. 28, lines 39-41 disclosing 100 rows and 100 columns of dots forming a total array of 10,000 separate individual antibodies.)

As to claim 5, the addresses are arranged in rows and columns (col. 28, lines 39-41.)

As to claim 6, the array is arranged in a computer readable format (col. 28, line 34.)

As to claims 7-9, the array comprises at least 10 polypeptide samples, at least 30 different polypeptide samples or at least 100 different polypeptide samples (col. 28, lines 39-41.) (The Office notes that the limitation "different" is not defined to mean --different types--, therefore the limitation "different" is interpreted to encompass the meaning separate or distinct.)

As to claim 10, the array comprises a microarray (col. 28, lines 39-42.)

As to claim 11, the solid support comprises glass (col. 27, line 64.)

As to claim 45, the plurality of substantially pure target polypeptides are a collection of related proteins and the collection includes proteins expressed in a cell during a particular growth phase or environmental condition (col. 8, lines 18-28.)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kauvar, 5,541,070, in view of Natesan, 6,015,709.

Kauvar discloses the invention substantially as claimed (see above), except for the polypeptide samples comprising transcriptional factors (claim 12), or specifically TFIIA (claim 13.) Natesan discloses these limitations, i.e., an assay wherein the probe is TFIIA.

Natesan discloses that screening derivatives of AP activation tag for binding to TFIIA can be used to obtain functionally equivalent derivatives of AP activation tag (col. 17, lines 45-47), as would be useful for biological research (col. 1, lines 11-17 and lines 47-51.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide TFIIA as the polypeptide sample in the Kauvar protein array in order to screen for derivatives of AP activation tag because Nateson teaches that such screening provides the advantage of obtaining functionally equivalent derivatives of AP activation tag, as would be useful for biological research.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Friend et al., 6,165,709, discloses a protein array with binding sites for products of all the genes in an organism's genome.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is 571-272-0822. The examiner can normally be reached on M-Sat 11-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.L.



LONG V. LE  
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07/22/06